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IDENTITY OF THE MOTH *LOXAGROTIS*
PAMPOLYCALA (DYAR) FROM THE
SOUTHWESTERN UNITED STATES AND MEXICO
(NOCTUIDAE)

JOHN S. BUCKETT
Department of Entomology
University of California, Davis

OVER THE PAST TWO DECADES or more, a species of *Loxagrotis* McDunnough near *L. socorro* (Barnes) has been collected in southern Arizona. It was thought to represent a new species, and only recently the author checked the types of similar species, including the type of *L. pampolycala* (Dyar), in the United States National Museum. The type male of *pampolycala*, U.S.N.M. type number 14210, described from Mexico, matches the series of the males before the author in every detail.

At the time of the original description of *pampolycala*, Dyar (1912) had only two specimens before him, a male and a female. In his discussion immediately following his original description, Dyar stated concerning the two specimens before him "The female before me is similar [to the male] . . .". The brackets are mine. From this statement, it seems obvious that the male should be selected as lectotype at the time of revisionary work.

McDunnough (1928) in his "A Generic Revision of North American Agrotid Moths" stated (p. 28) concerning four species of *Loxagrotis* "For the present *salina* Barnes, *capota* Sm., *albicosta* Sm., and *socorro* Barnes are placed here although the latter two are quite atypical, the palpi being heavily but smoothly scaled, not fringed with hair, and the genitalia of each showing a complete corona and considerable individual difference in the position and shape of the harpe." It is well to note that *pampolycala* also should be placed with this "atypical" group of the genus, namely with *albicosta* (Smith), *capota* (Smith), *salina* (Barnes) and *socorro* (Barnes).



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Fig. 1. *Loxagrotis pampolycala* (Dyar), male. Madera Canyon, Santa Cruz County, Arizona, 7 July 1963, Bauer-Buckett slide no. 69B25-33 (W. R. Bauer & J. S. Buckett).

Fig. 2. *L. pampolycala*, female. Data same as in fig. 1.

The synonymy of *pampolycala* under *socorro* is due to the work of Draudt (*in* Seitz, 1923). He states (*op. cit.*) "f. *pampolycala* Dyar belongs hereto, it is marked exactly the same, but more iron-grey in the ground-colour, without the dark filling of the cell and not so variable. The hindwing of the female is like that of the male whitish and hardly darkened. Mexico." The hindwing of the female, however, is somewhat darkened and can hardly be called "white".

Barnes and Benjamin (1924) followed this synonymy of *pampolycala* beneath *socorro*, however considered both species to belong to *Chorizagrotis* Smith, rather than to *Rhizagrotis* Smith as did Draudt. McDunnough (1928), was then the first author to place the concerned species in his newly erected genus *Loxagrotis*.

Loxagrotis pampolycala (Dyar)

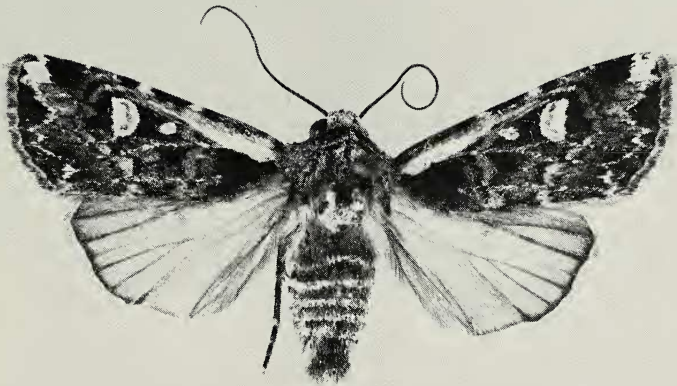
Lycophotia pampolycala Dyar, 1912, Proc. U.S. Nat. Mus. 42:57-58.

Rhizagrotis socorro, form *pampolycala*, Draudt (*in* A. Seitz), 1923, Macrolepidoptera of the World, 7:51.

Chorizagrotis pampolycala, Barnes and Benjamin, 1924 (as a synonym of *socorro*), Contrib. Nat. Hist. Lepid. N. America 5(3):111.

Loxagrotis socorro, form *pampolycala*, McDunnough, 1938, Mem. Southern California Acad. Sci. 1:61.

DESCRIPTION: Male: Head with vertex and frons evenly rounded, slightly roughened, protruding; palpi exterolaterally blackish, basal segment colored ventrally with tan colored elongate hairs; apical portion of second segment light tan, third segment stubby, colored in tan scales; compound eyes with band of blackish hairs exterolaterally; antennae with scape and pedicel clothed in flattened tan colored scales; flagellomeres dorsally clothed with tan colored scales, ventrally fasciculate, apically becoming setose-ciliate. Thorax with collar composed of elongate dentate scales, basally tan, subapically somewhat darker, tan tipped; tegulae composed of flattened elongate tan colored scales and elongate brown simple hairs; disc composed predominantly of elongate tri-colored flattened hairs, basally tan, subapically brown, apically tan; ventrally clothed in elongate tan colored hairs; tarsi with segments clothed in black scales



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Fig. 3. *L. socorro* (Barnes), male. Sunnyside, west side, Huachuca Mountains, Cochise County, Arizona, 9 July 1958 (L. M. Martin).
Fig. 4. *L. socorro*, female. Madera Canyon, Santa Rita Mountains, Santa Cruz County, Arizona, 10 July 1957 (L. Stange and Harding).

except for apical annuli of tan colored scales; primaries with basal line represented costally as dark brown mark, thence by a single black dot on second anal vein; transverse anterior area with a longitudinal black elongate medial band; transverse anterior line hardly discernable and when visible appearing geminate, basally tan apically dark brown, course as in figure 1; medial area tan, overlain with dark brown scales; orbicular longitudinally elongated, tan, blending into tan costal band; reniform ovate, composed of light tan scales, outlined in dark brown scales, these scales coalescing with dark brown outline of orbicular; transverse anterior line scalloped, dark brown to black, course as in figure 1; subterminal area costally dark brown, thence tan colored, overlain with dark brown scales to inner margin, veins ventrally outlined in darker color; subterminal line very irregular, represented basally in dark brown, thence a band of tan scales terminally; terminal line composed of dark brown scallops between veins, these scallops being very shallow; fringes tri-colored, basally tan, medially dark brown, remainder off-white; ventral surface tan, with a suggestion of transverse posterior line in dark brown; secondaries whitish with a bluish tinge, costally tan colored; terminal line dark brown, fringes white; ventral surface as in dorsal surface except for presence of dark brown exterior band on costa. Abdomen dorsally clothed in elongate tan colored scales and simple hairs; ventrally clothed in tan colored scales and hairs which overlay broadened simple white colored scales. Greatest expanse of forewings 17 mm. Genitalia as in figures 5 and 6.

Female: As in male except antennae ciliate; secondaries dirty whitish overlain with brownish scales appearing almost fuscous, as in figure 2. Greatest expanse of forewings 18 mm. Abdomen dorsally clothed in brown broadened scales and simple hairs, posterior portion of segments clothed in light brown; ventrally clothed in off-white scales and hairs. Genitalia as in figure 9.

SPECIMENS EXAMINED: Mexico: Cotypes, no. 14210, U.S. Nat. Mus., 1 male, Cuernavaca, May, 1911 (R. Müller); 1 female, Guerrero, Mexico (J. Doll). Arizona: 1 male, 3 females, Madera Canyon, Santa Cruz County, 4880' elevation, 7 July 1963 (W. R. Bauer & J. S. Buckett); 2 females, same data as preceding, 8 July 1963; 1 female, Madera Canyon, Santa Cruz County, 16 July 1967 (C. W. Baker).

Specimens studied are deposited in the Entomology Department, University of California, Davis and the collection of the



Fig. 5. *L. pampolycala*, male. Genitalia minus aedeagus. Data same as in Fig. 1.

Fig 6. *L. pampolycala*, male. Aedeagus, inflated, data same as in fig. 5.



Fig. 7. *L. socorro*, male. Genitalia minus aedeagus, Madera Canyon, Santa Cruz County, Arizona, 6 July 1963, Bauer-Buckett slide no. 69B25-31 (W.R.B. & J.S.B.).

Fig. 8. *L. socorro*, male. Aedeagus, inflated, data same as in fig. 7.

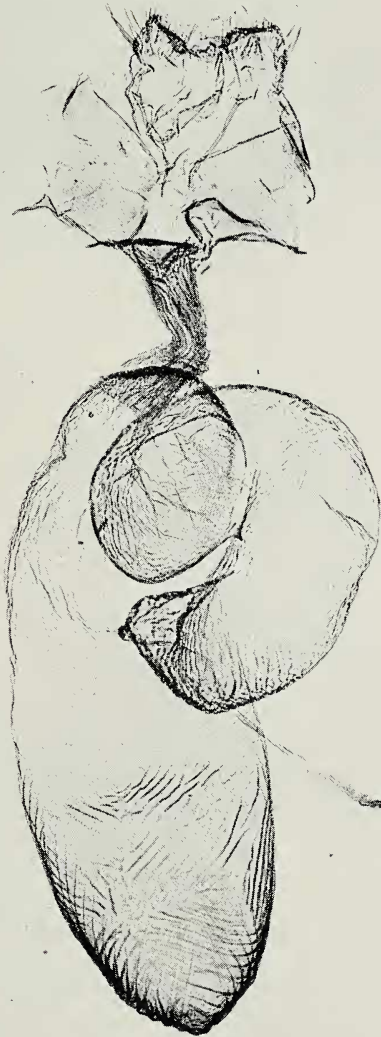


Fig 9. *L. pampolycala*, female genitalia. Madera Canyon, Santa Cruz County, Arizona, 8 July 1963, Bauer-Buckett slide no. 69B25-34 (W.R.B. & J.S.B.).

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Loxagrotis pampolycala differs from its closest relative, *L. socorro* by being slightly larger, and more drab in coloration. Also, the reniform of *pampolycala* is larger and more in a diagonal position on the primaries, whereas the reniform of *socorro* is more upright on the wing. The secondaries of the females of *pampolycala* are darker than are those of *socorro* too. Both species occur sympatrically, and to my knowledge, nothing is yet known concerning the life histories of either species.

Loxagrotis socorro (Barnes)

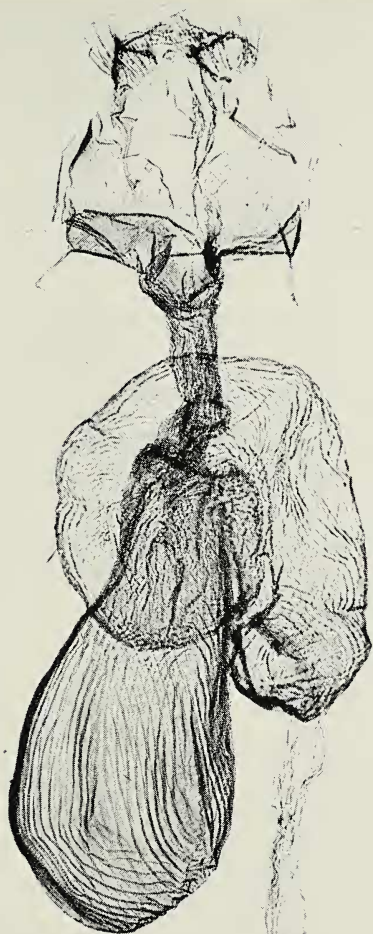
Rhizagrotis socorro Barnes, 1904, *Canad. Entomol.* 36(6):171-172; Barnes and McDunnough, 1912, *Contrib. Nat. Hist. Lepid. N. America* 1(4):16, pl. 6, fig. 20; Draudt, (in A. Seitz), 1923, *Macrolepidoptera of the World* 7:51.

Chorizagrotis socorro, Barnes and McDunnough, 1917, *Checklist of the Lepidoptera of Boreal America*, p. 44; Barnes and Benjamin, 1924, *Contrib. Nat. Hist. Lepidoptera of N. America* 5(3):111-112.

Loxagrotis socorro, McDunnough, 1928, *Canad. Dept. Mines, Bull. no. 55, Biological series no. 16*:27-28; 1938, *Mem. Southern California Acad. Sci.* 1:61.

DIAGNOSIS: Vestiture of head brown to dark brown; antennae of male fasciculate, terminally becoming setose-ciliate, of female ciliate. Thorax with divided collar possessing a dark transverse band; disc and tegulae clothed in various shades of brown; ventrally clothed in elongate whitish simple hairs; primaries dorsally with maculation as in figs. 3 and 4, ground color dark brown; costa with conspicuously cream colored band, from base to just past reniform; reniform ochreous, centrally filled with dark brown scales; subterminal area conspicuously washed with whitish scales, contrasting with median and dark brown terminal areas; secondaries whitish with purplish sheen in male, in female there is tendency toward dirty white or fuscous. Greatest expanse of forewings 15-16 mm. Genitalia as in figs. 7, 8, and 10.

SPECIMENS EXAMINED: Arizona: 1 male, Madera Canyon, Santa Cruz County, 4880' elevation, 6 July 1963 (W. R. Bauer & J. S. Buckett); 2 females, same data as preceding, 7 July 1963; 1 female, same data as preceding, 8 July 1963; 1 female, same data as preceding, 14 July 1963; 1 female, Madera Canyon, Santa



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Fig. 10. *L. socorro*, female genitalia. Madera Canyon, Santa Cruz County, Arizona, 7 July 1963, Bauer-Buckett slide no. 69B25-32 (W.R.B. & J.S.B.).

Rita Mountains, Santa Cruz County, southern Arizona, 10 July 1957 (Stange and Harding); 1 male, Sunnyside, west side Huachuca Mountains, Cochise County, ex. 15 watt fluorescent black light, 8 July 1958 (Lloyd M. Martin); 1 female, same data as preceding, 9 July 1958; 1 male, same data as preceding, 12 July 1958.

L. socorro may be distinguished from its closest relative, *L. pampolycala* by use of the characters in the discussion section under *pampolycala*, as well as by use of the genitalia.

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